OIPE IAP62
DEC 22 2005
PATENT & TRADEMARK OFFICE

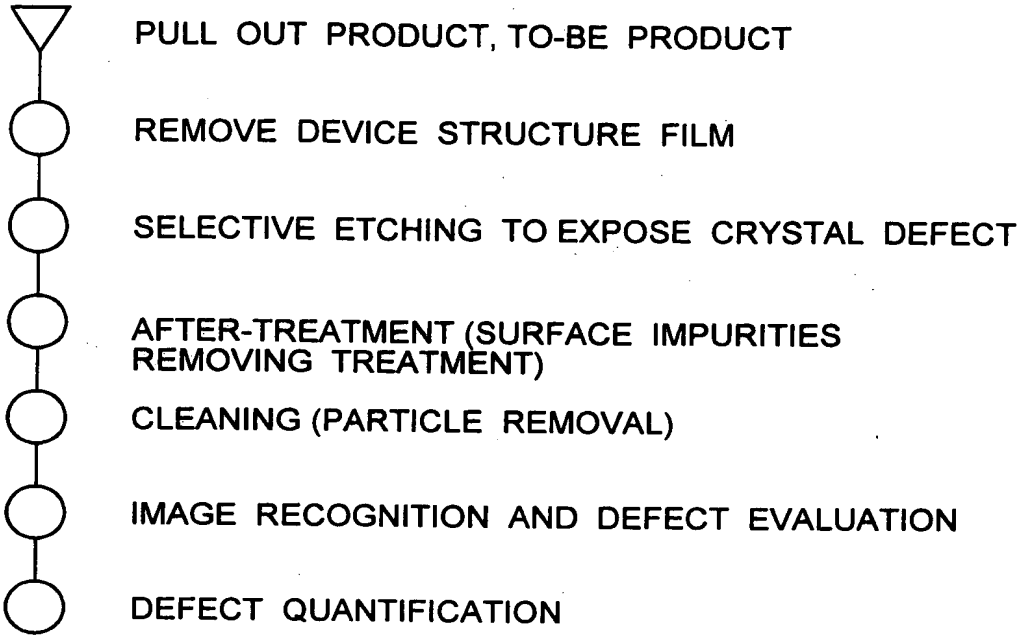


FIG. 1

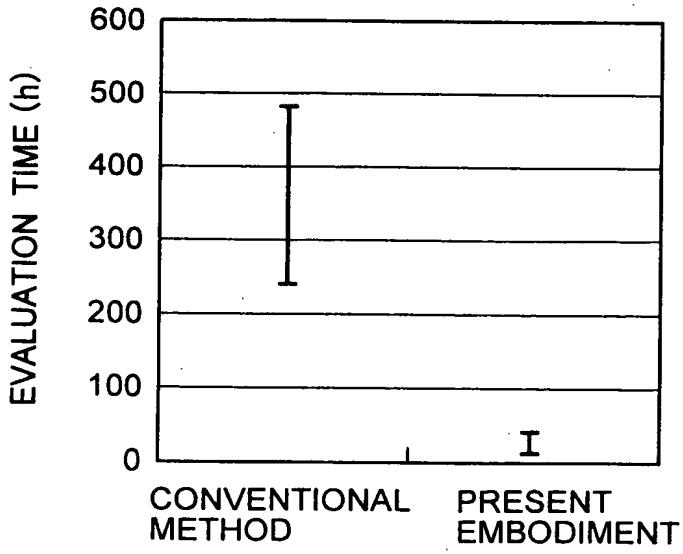


FIG. 3

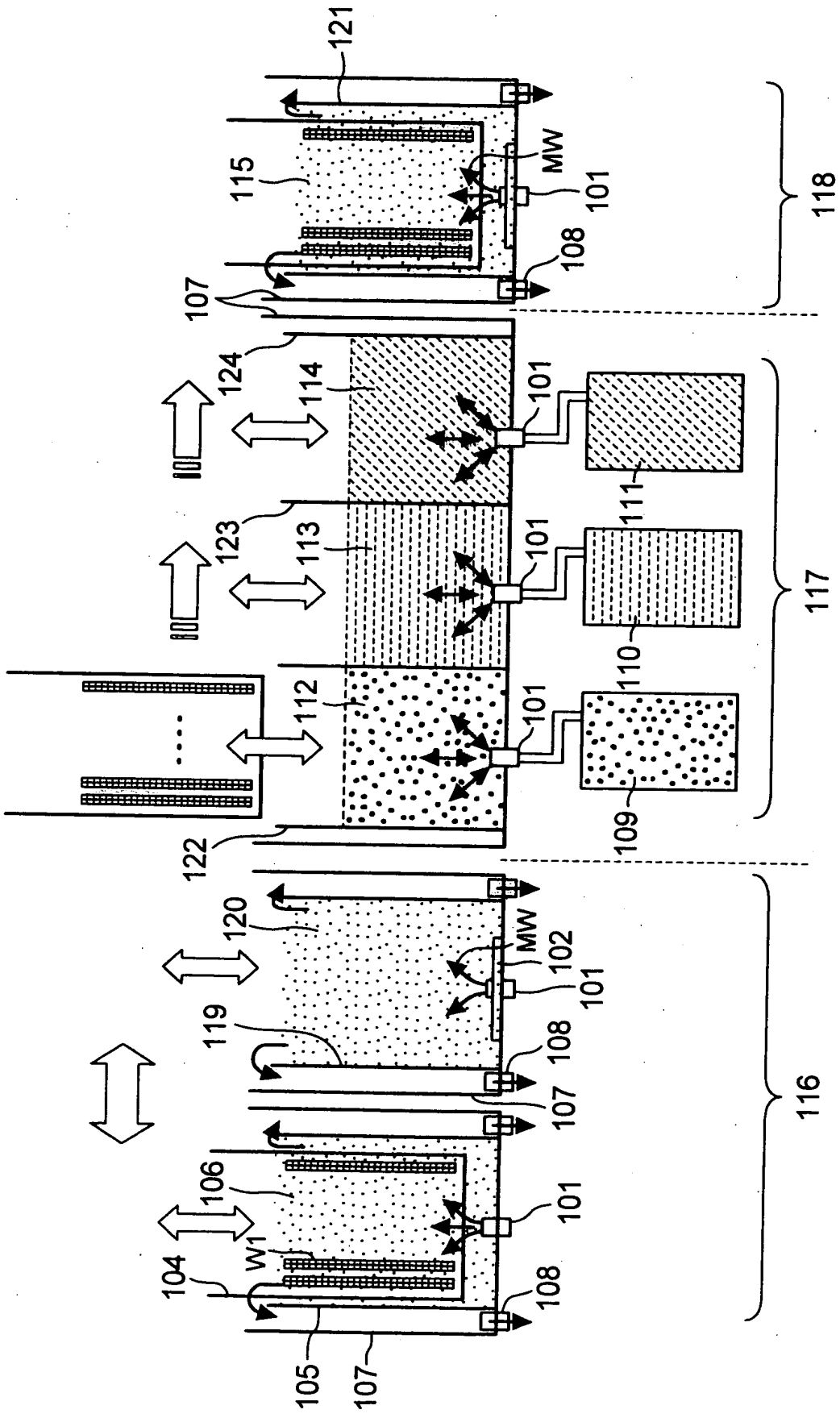

121
115
MW
101
118
108
107
124
114
101
111
123
113
101
117
110
112
101
109
122
120
MW
102
101
119
108
107
116
106
101
W1
104
108
105
107

FIG. 2

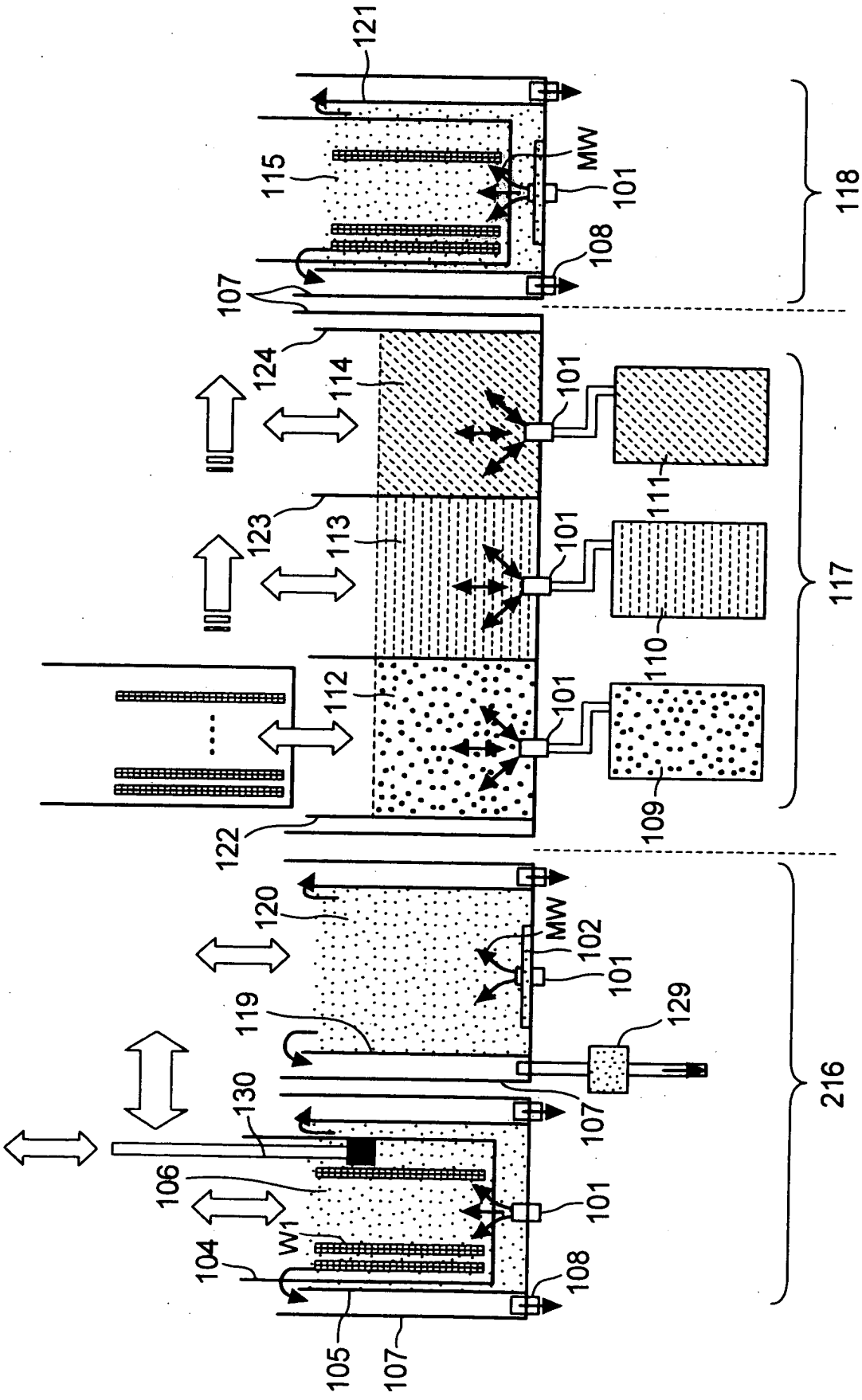

121
115
MW
101
118
108
107
124
114
101
123
113
101
111
117
112
101
110
109
122
120
MW
102
101
119
129
130
107
106
101
W1
104
108
105
107
216

FIG. 4

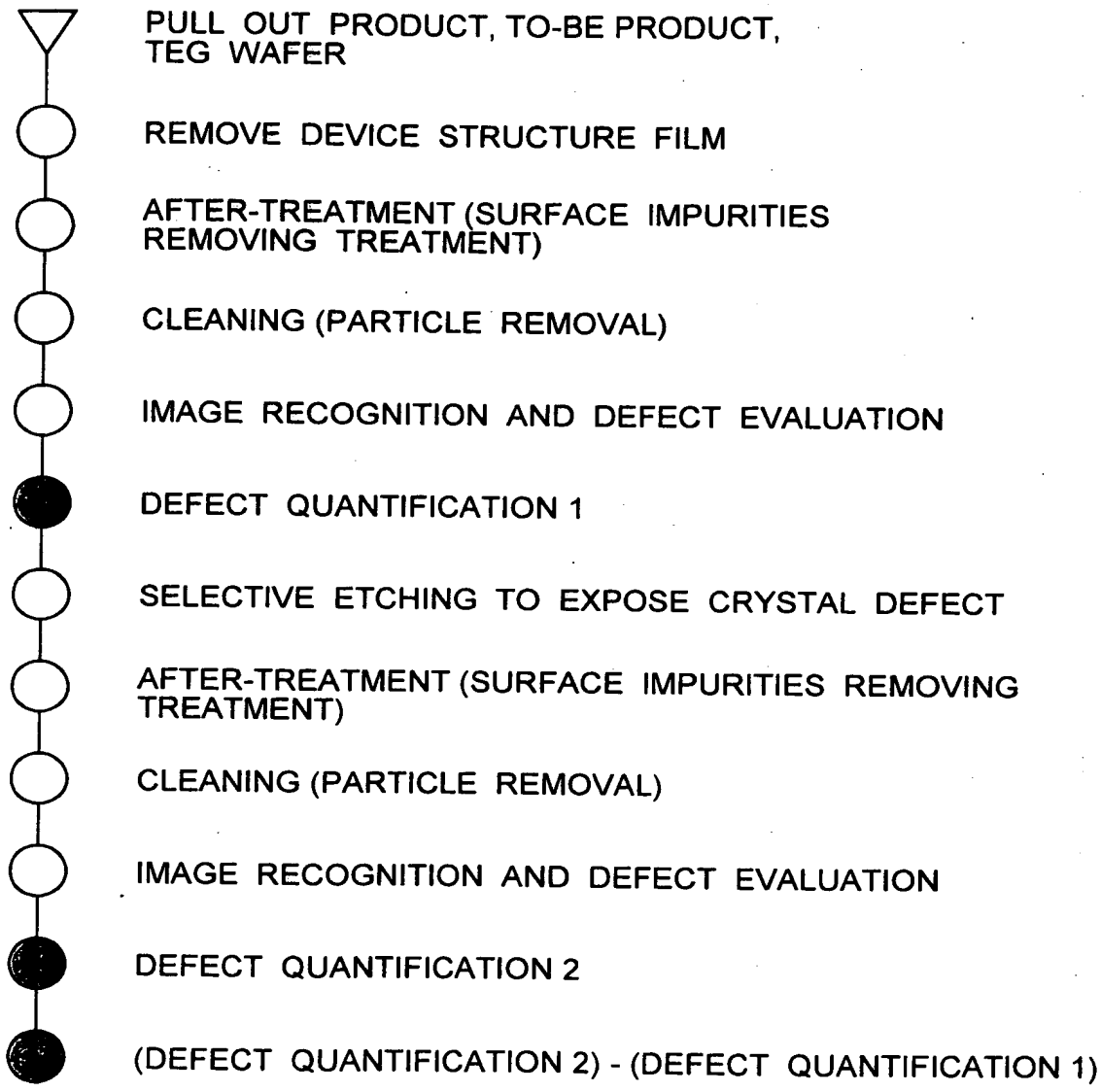

PULL OUT PRODUCT, TO-BE PRODUCT, TEG WAFER
REMOVE DEVICE STRUCTURE FILM
AFTER-TREATMENT (SURFACE IMPURITIES REMOVING TREATMENT)
CLEANING (PARTICLE REMOVAL)
IMAGE RECOGNITION AND DEFECT EVALUATION
DEFECT QUANTIFICATION 1
SELECTIVE ETCHING TO EXPOSE CRYSTAL DEFECT
AFTER-TREATMENT (SURFACE IMPURITIES REMOVING TREATMENT)
CLEANING (PARTICLE REMOVAL)
IMAGE RECOGNITION AND DEFECT EVALUATION
DEFECT QUANTIFICATION 2
(DEFECT QUANTIFICATION 2) - (DEFECT QUANTIFICATION 1)

FIG. 5

FIG. 6A

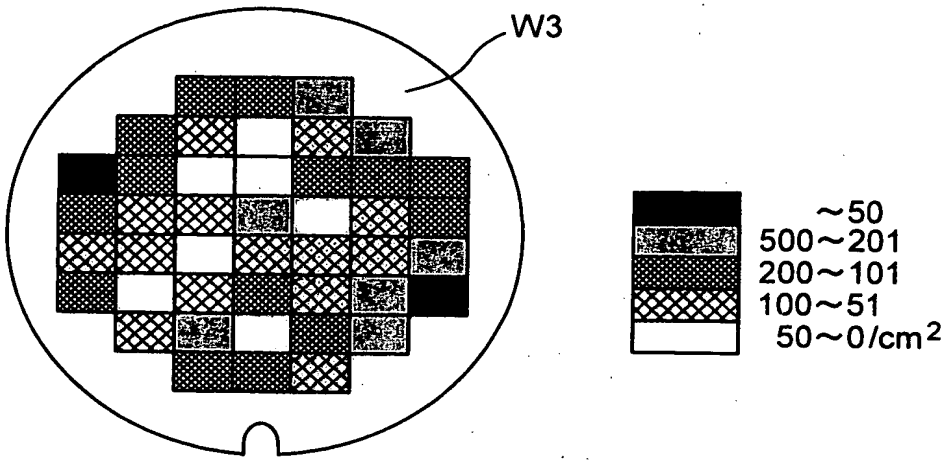


FIG. 6B

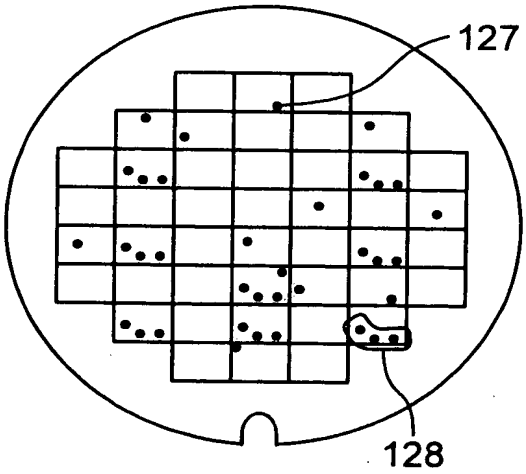
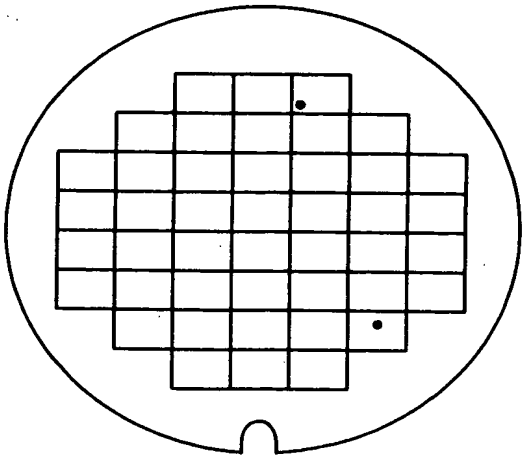


FIG. 6C



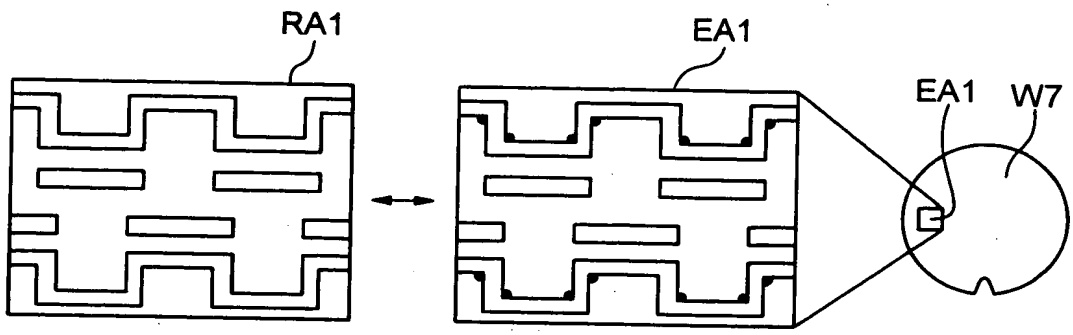


FIG. 7

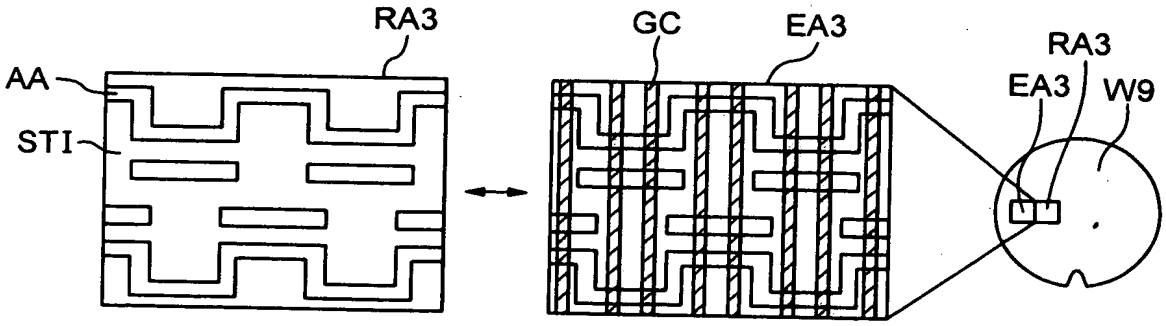


FIG. 8

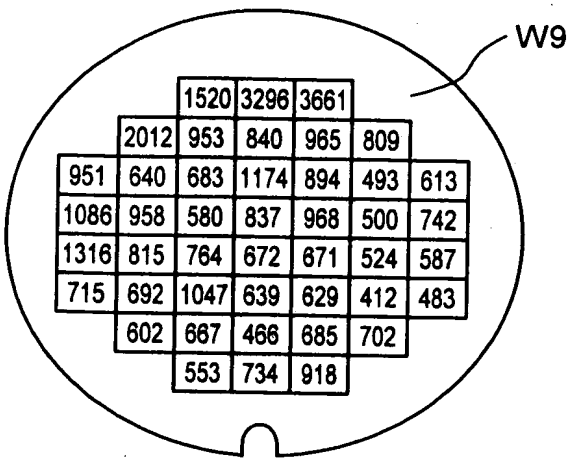


FIG. 9

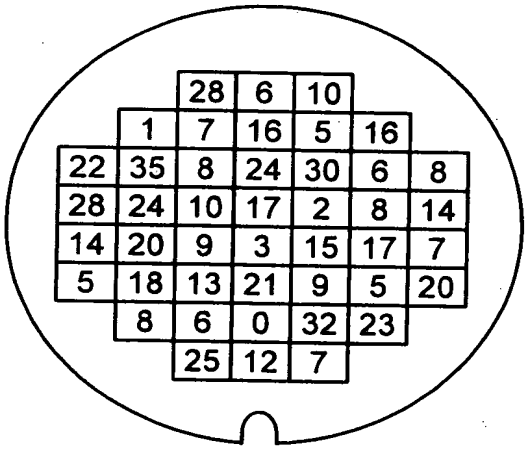


FIG. 10

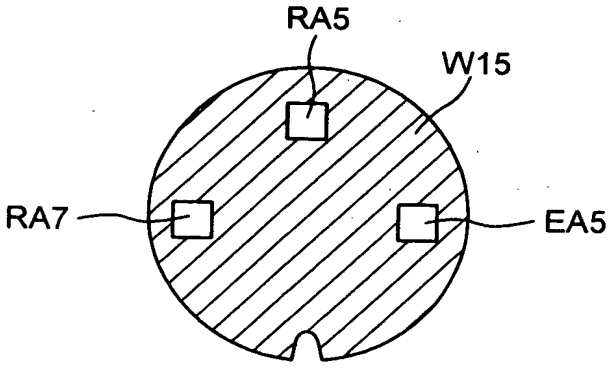


FIG. 11

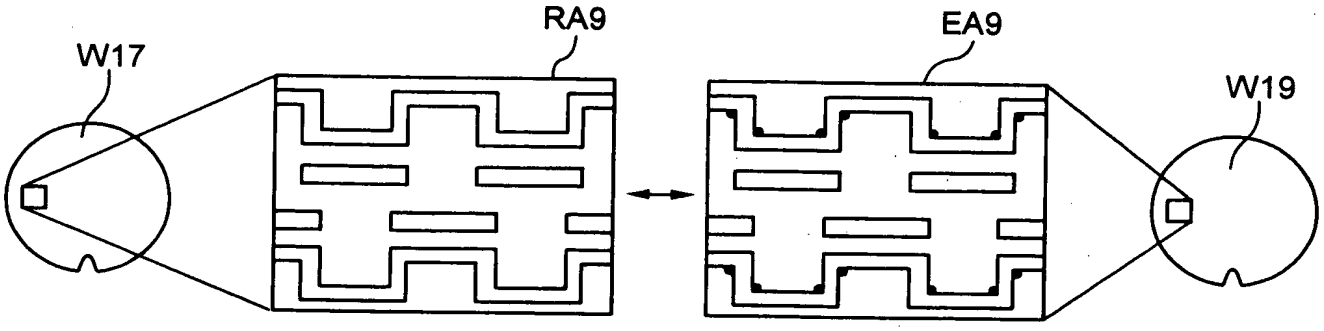

W17
RA9
EA9
W19

FIG. 12

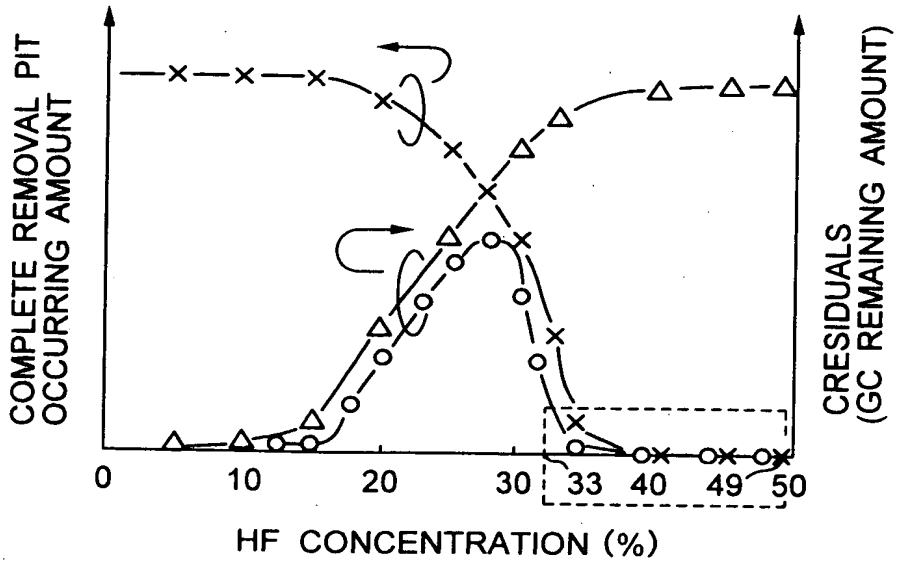

COMPLETE REMOVAL PIT OCCURRING AMOUNT
CRESIDUALS (GC REMAINING AMOUNT)
0
10
20
30
33
40
49
50
HF CONCENTRATION (%)

FIG. 13

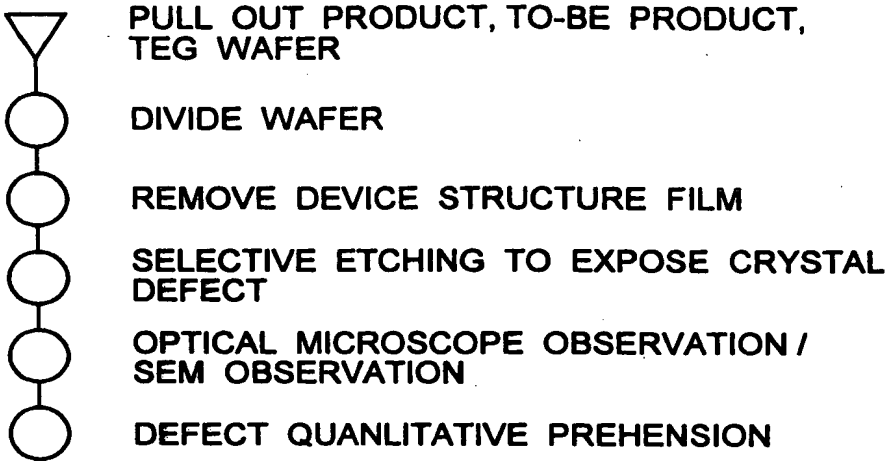


FIG. 14
(PRIOR ART)

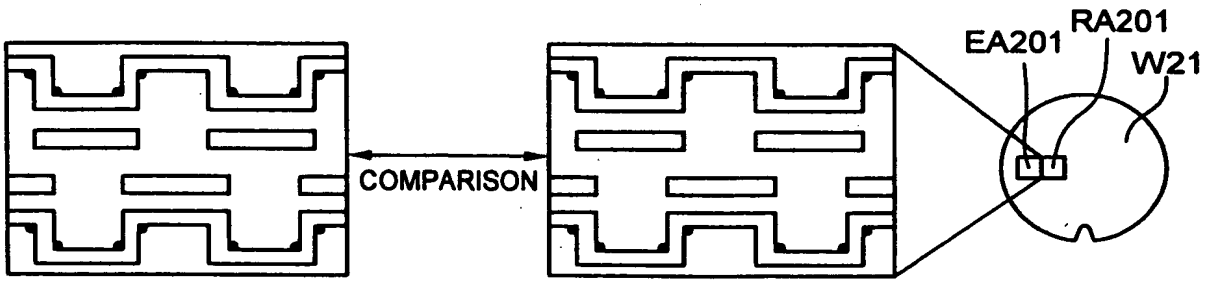


FIG. 16
(PRIOR ART)

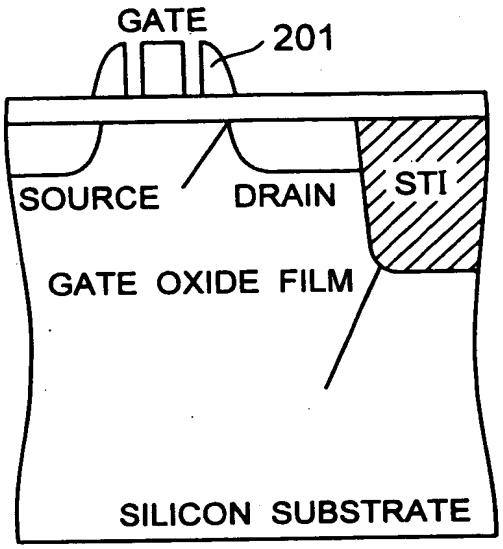


FIG. 15A
(PRIOR ART)

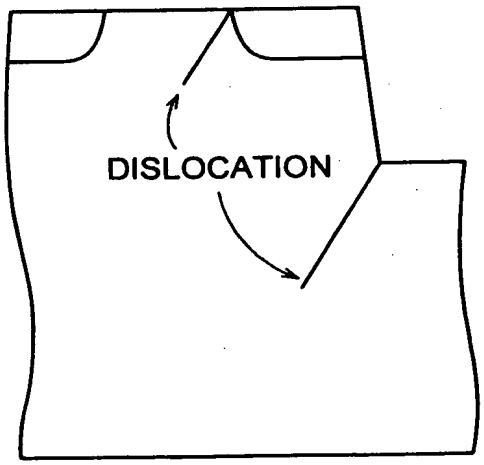


FIG. 15B
(PRIOR ART)

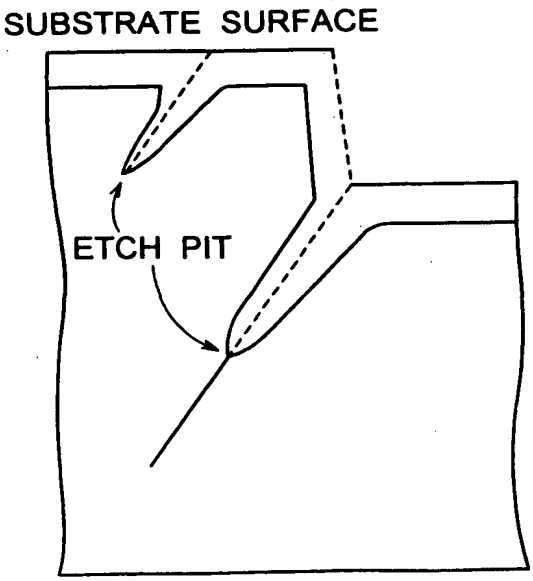


FIG. 15C
(PRIOR ART)